

WHAT IS CLAIMED IS

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1. A deviation compensation apparatus compensating for at least one of an amplitude deviation and a phase deviation occurring in signals during transmission thereof through N transmission  
10 paths, where N denotes a natural number larger than 1, comprising;

a compensating part compensating for deviations on M transmission paths of said N transmission paths, where M is a natural number and  
15  $M < N$ ; and

a pre-deviation signal combining part combining signals on the N transmission paths before having the deviations applied thereto,

wherein said compensating part performs  
20 compensation for the deviations based on output of said pre-deviation signal combining part and the signals on the transmission paths to be compensated.

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2. The deviation compensation apparatus as claimed in claim 1, wherein:

said compensating part compensates for the  
30 deviations based on the output of said pre-deviation signal combining part, a combination of the signals on the transmission paths to be compensated and the signals on the transmission paths to be compensated after having the deviations applied thereto.

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3. A deviation compensation apparatus compensating for at least one of an amplitude deviation and a phase deviation occurring in signals during transmission thereof through N transmission paths, where N denotes a natural number larger than 1, comprising;

5 a compensating part compensating for deviations on M transmission paths of said N transmission paths, where M is a natural number and  
10  $M < N$ ; and

a post-deviation signal combining part combining signals on the N transmission paths after having the deviations applied thereto,

15 wherein said compensating part performs compensation for the deviations based on output of said post-deviation signal combining part and the signals on the transmission paths to be compensated.

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4. The deviation compensation apparatus as claimed in claim 3, wherein:

said compensating part compensates for the  
25 deviations based on the output of said post-deviation signal combining part, a combination of the signals on the transmission paths to be compensated and the signals on the transmission paths to be compensated before having the deviations  
30 applied thereto.

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5. The deviation compensation apparatus as claimed in claim 1, further comprising:

a correction value calculating part

calculates a correction value every predetermined interval for each transmission path,

wherein:

5       said correction value calculating part  
performs processing of calculating an average for a  
second predetermined interval of a product of an  
error signal of a difference between the output of  
said pre-deviation signal combining part and a  
10       combination of the signals on the transmission paths  
to be compensated and a signal on the respective  
transmission path to be compensated.

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6. The deviation compensation apparatus  
as claimed in claim 3, further comprising:

      a correction value calculating part  
calculates a correction value every predetermined  
20       interval for each transmission path,  
      wherein:  
      said correction value calculating part  
performs processing of calculating an average for a  
second predetermined interval of a product of an  
25       error signal of a difference between the output of  
said post-deviation signal combining part and a  
combination of the signals on the transmission paths  
to be compensated and a signal on the respective  
transmission path to be compensated.

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7. The deviation compensation apparatus  
35       as claimed in claim 1, further comprising:

      a first circuit of multiplying with an  
amplitude and a phase rotation, and a second circuit

of performing a conversion reverse to that of said first circuit, for at least each transmission path to be compensated

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8. The deviation compensation apparatus as claimed in claim 3, further comprising:  
10 a first circuit of multiplying with an amplitude and a phase rotation, and a second circuit of performing a conversion reverse to that of said first circuit, for at least each transmission path to be compensated

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9. The deviation compensation apparatus  
20 as claimed in claim 1, wherein said pre-deviation signal combining part applies weights in combining the signals such that the combination output may be maintained higher than a predetermined level.

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10. The deviation compensation apparatus as claimed in claim 3, wherein said post-deviation  
30 signal combining part applies weights in combining the signals such that the combination output may be maintained higher than a predetermined level.

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11. The deviation compensation apparatus

as claimed in claim 7, wherein said first circuits apply the same weights as those applied in said pre-deviation signal combining part claimed in claim 9.

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12. The deviation compensation apparatus as claimed in claim 8, wherein said first circuits  
10 apply the same weights as those applied in said post-deviation signal combining part claimed in claim 10.

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13. The deviation compensation apparatus as claimed in claim 9, wherein the weights are set  
20 such that the phases of adjacent transmission paths may be equal.

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14. The deviation compensation apparatus as claimed in claim 10, wherein the weights are set  
such that the phases of adjacent transmission paths may be equal.

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15. The deviation compensation apparatus as claimed in claim 1, wherein:

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said apparatus is used for radio communication employing a plurality of carrier frequencies; and

said apparatus further comprises an amplifier covering a frequency band used by the radio communication, a circuit selecting each carrier frequency, and a frequency converting  
5 circuit converting each carrier frequency into a baseband frequency.

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16. The deviation compensation apparatus as claimed in claim 3, wherein:

said apparatus is used for radio communication employing a plurality of carrier  
15 frequencies; and

said apparatus further comprises an amplifier covering a frequency band used by the radio communication, a circuit selecting each carrier frequency, and a frequency converting  
20 circuit converting each carrier frequency into a baseband frequency.